

Notice of Allowability

Application No.

10/600,756

Examiner

BLANCHE WONG

Applicant(s)

KIM, SUNG-DEUK

Art Unit

2619

- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to April 18, 2008.
2. ☒ The allowed claim(s) is/are 1,4-6,9-11,13-23,26-34 (renumbered 1-27 respectively).
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date Jan'08
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date Jan'08
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Samuel Ntiros (Reg No. 39,318) on May 21, 2008 and May 27, 2008.

The application has been amended as follows:

1. (Currently Amended) An error-detecting method in a mobile communication system, comprising:

detecting an error in a data block which has passed an uplink radio section;

inserting a cyclic redundancy check (CRC) code into the error data block;

transmitting the error data block with the CRC code to a receiving side; and

performing a concealment operation on the error data block when the error data block is transmitted to and judged to be CRC fail in the receiving side, wherein the CRC code of the error data block has a predetermined bit pattern which causes ~~the~~ a downlink radio section to exclude the error data block

from being used as a basis for performing a downlink power control operation based on the predetermined bit pattern of the CRC code.

2. (Canceled)

3. (Canceled)

4. (Original) The method of claim 1, wherein the CRC code is generated and inserted by a base station system of a transmitting side.

5. (Original) The method of claim 4, wherein the base station system includes a base station, a radio network controller, and a mobile switching center.

6. (Currently Amended) An error-detecting method in a mobile communication system, comprising:

checking whether an error exists in a data block which has passed an uplink radio section;

inserting a cyclic redundancy check (CRC) code in the data block if the data is ~~detected~~ checked to have an error;

detecting the error data block containing the CRC code on a receiving side;

generating a CRC fail based on detection of the CRC code;

reporting detection of an error to an image application; and
performing a concealment operation on the error data block based on the CRC fail using the image application, wherein the CRC code of the error data block has a predetermined bit pattern which causes ~~the a~~ downlink radio section to exclude the error data block from being used as a basis for performing a downlink power control operation based on the predetermined bit pattern of the CRC code.

7. (Canceled)

8. (Canceled)

9. (Original) The method of claim 6, wherein the CRC code is generated and inserted by a base station system of a transmitting side.

10. (Original) The method of claim 9, wherein the base station system includes a base station, a radio network controller, and a mobile switching center.

11. (Currently Amended) An error-detecting method in a mobile communication system, comprising:

checking whether an error exists in a data block which has passed an uplink radio section;

inserting a cyclic redundancy check (CRC) code into the data block if the data is detected to have an error;

detecting the error data block containing the CRC code on a receiving side;

generating a CRC fail based on detection of the CRC code; and

stopping a decoding operation on the error data block and performing a concealment operation on the error data block based on the CRC fail, wherein the CRC code of the error data block has a predetermined bit pattern which causes ~~the a~~ downlink radio section to exclude the error data block from being used as a basis for performing a downlink power control operation based on the predetermined bit pattern of the CRC code.

12. (Canceled)

13. (Original) The method of claim 11, wherein the CRC code is generated and inserted by a base station system of a transmitting side.

14. (Original) The method of claim 13, wherein the base station system includes a base station, a radio network controller, and a mobile switching center.

15. (Original) The method of claim 11, wherein the uplink radio section is a radio section between an originating terminal and a radio network controller.

16. (Currently Amended) The method of claim 11, wherein the error data block includes moving picture information.

17. (Currently Amended) An-error detecting method in a mobile communication system, comprising:

(a) detecting that a data block which has passed an uplink radio section has an error;

(b) blocking transmission of the error data ~~error~~ block without inserting a substitute data block for the error data block;

(c) determining that the error data ~~error~~ block has not been timely received by ~~the~~ a receiving side based on an undetected transmission sequence number corresponding to the error data ~~error~~ block ; and

(d) performing a concealment operation on the error data ~~error~~ block not timely received.

18. (Original) The method of claim 17, wherein steps (a) and (b) are performed in a base station system of the transmitting side.

19. (Original) The method of claim 18, wherein the base station system includes a base station, a radio network controller, and a mobile switching center.

20. (Original) The method of claim 17, wherein the uplink radio section is a radio section between an originating terminal and a radio network controller.

21. (Currently Amended) The method of claim 17, wherein the error data block includes moving picture information.

22. (Previously Presented) The method of claim 17, wherein a data transmission to the receiving terminal is performed based on a circuit network transmission method.

23. (Currently Amended) A system for detecting errors in a mobile communication system, comprising:

a detector which detects an error in a data block which has passed an uplink radio section;

a processor for inserting a cyclic redundancy check (CRC) code in the error data block; and

a transmitter for transmitting the error data block with the CRC code to a receiving side, wherein a processor at the receiving side performs a

concealment operation on the error data block when the error data block is transmitted to and judged to be a CRC fail, wherein the CRC code of the error data block has a predetermined bit pattern which causes ~~the a~~ downlink radio section to exclude the error data block from being used as a basis for performing a downlink power control operation based on the predetermined bit pattern of the CRC code.

24. (Canceled)

25. (Canceled)

26. (Original) The system of claim 23, further comprising:

a base station system at a transmitting side which generates and inserts the CRC code.

27. (Original) The system of claim 26, wherein the base station system includes a base station, a radio network controller, and a mobile switching center.

28. (Currently Amended) A system for transmitting data in a mobile communication system, comprising:

a detector which detects that a data block passing an uplink radio section includes an error; and

a controller which blocks transmission of the error data ~~error~~ block without inserting a substitute data block for the error data block, wherein blocking transmission of the error data ~~error~~ block generates a missing transmission sequence number corresponding to the error data block that is detectable relative to other data blocks that are transmitted.

29. (Currently Amended) The system of claim 28, further comprising:

a detector at a receiving side that determines that the error data ~~error~~ block corresponding to the missing transmission sequence number has not been timely received, and performs a concealment operation on the error data ~~error~~ block not timely received.

30. (Original) The system of claim 28, wherein the detector and controller are located in a base station system of a transmitting side.

31. (Original) The system of claim 30, wherein the base station system includes a base station, a radio network controller, and a mobile switching center.

32. (Currently Amended) An error-detecting method in a mobile communication system, comprising:

detecting an error in a data block which has passed an uplink radio section;

inserting a cyclic redundancy check (CRC) code into the error data block;

transmitting the error data block with the CRC code to a receiving side; and

performing a concealment operation on the error data block when the error data block is transmitted to and judged to be CRC fail in the receiving side, wherein detection of the CRC code of the error data block on the receiving side prevents the error data block from being used as an index for determining an operating state of a downlink section at the receiving side, the downlink section to exclude the error data block from being used as a basis for performing a downlink power control operation.

33. (Currently Amended) An error-detecting method in a mobile communication system, comprising:

checking whether an error exists in a data block which has passed an uplink radio section;

inserting a cyclic redundancy check (CRC) code in the data block if the data is detected to have an error;

detecting the error data block containing the CRC code on a receiving side;

generating a CRC fail based on detection of the CRC code;

reporting detection of an error to an image application; and

performing a concealment operation on the error data block based on the CRC fail using the image application, wherein detecting the CRC code of the error data block on the receiving side prevents the error data block from being used as an index for determining an operating state of a downlink section at the receiving side, the downlink section to exclude the error data block from being used as a basis for performing a downlink power control operation.

34. (Currently Amended) An error-detecting method in a mobile communication system, comprising:

checking whether an error exists in a data block which has passed an uplink radio section;

inserting a cyclic redundancy check (CRC) code into the data block if the data is detected to have an error;

detecting the error data block containing the CRC code on a receiving side;

generating a CRC fail based on detection of the CRC code; and

stopping a decoding operation on the error data block and performing a concealment operation based on the CRC fail, wherein detecting the CRC code of the error data block on the receiving side prevents the error data block from being used as an index for determining an operating state of a downlink section at the receiving side, the downlink section to exclude the error data block from being used as a basis for performing a downlink power control operation.

2. The following is an examiner's statement of reasons for allowance:

With regard to claims 1,6,11,23 the prior art of record fails to anticipate or make obvious an error-detecting method in a mobile communication system, including "the CRC code of the error data block has a predetermined bit pattern which causes the downlink section to exclude the error data block from being used as a basis for performing a downlink power control operation based on the predetermined bit pattern of the CRC code."

With regard to claim 17, the prior art of record fails to anticipate or make obvious an error detecting method in a mobile communication system, comprising all the recited steps including "blocking transmission of the error data block without inserting a substitute data block for the error data block and determining that the

error data block has not been timely received by a receiving side based on an undetected transmission sequence number corresponding to the error data block; and performing a concealment operation on the error data block not timely received.”

With regard to claim 28, the prior art of record fails to anticipate or make obvious a system for transmitting data in a mobile communication system, comprising all recited components including “a controller which blocks transmission of the error data block without inserting a substitute data block for the error data block, wherein blocking transmission of the error data block generates a missing transmission sequence number corresponding to the error data block that is detectable relative to other data blocks that are transmitted.”

With regard to claims 32-34, the prior art of record fails to anticipate or make obvious an error detecting method in a mobile communication system, comprising all the recited steps including “detection [or detecting] of the CRC code of the error data block on the receiving side prevents the error data block from being used as an index for determining an operating state of a downlink section at the receiving side, the downlink section to exclude the error data block from being used as a basis for performing a downlink power control operation.”

Willenegger et al. (US 2008/0025264) discloses CRC and power control, **para. [0074]**. However, Willenegger does not specifically teach a downlink power control operation based on the predetermined bit pattern of the CRC code.

Hamabe et al. (U.S. Pat No. 6,106,712) discloses CRC with a predetermined bit pattern. However, Hamabe does not teach using the predetermined bit pattern in the CRC to control downlink power.

Park et al. (U.S. Pat No. 6,944,802) discloses in each respective frame, there is a CRC field in the header information for detecting and correcting an error of the TYPE field and the SEQ field and the SEQ field denotes a sequence number, **col. 3, lines 61-62**. However, Park does not teach blocking the error data block and using the missing sequence number of the blocked error data block to induce error detection.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BLANCHE WONG whose telephone number is (571)272-3177. The examiner can normally be reached on Monday through Friday, 830am to 530pm.

Art Unit: 2619

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 571-272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Blanche Wong/
Examiner, Art Unit 2619
May 21, 2008

/Edan Orgad/
Supervisory Patent Examiner, Art Unit 2619